

Claims

1. A relocation method for changing a serving radio resource control entity,
said method comprising the steps of:
 - a) establishing a first operating state in which a user equipment (30) has
5 radio links with a serving network element (20) in charge of radio re-
source control of said user equipment, and with a drift network element
(21) supporting said serving network element (20) with a wireless con-
nection to said user equipment (30);
 - b) transmitting a relocation-specific information from said serving network
10 element (20) to a target network element (22) which is going to be the
next serving radio resource control entity;
 - c) establishing based on said relocation-specific information a second op-
erating state in which said user equipment (30) has radio links with said
drift network element (21) and said target network element (22), and in
15 which said drift network element (21) supports said target network ele-
ment (22) with a user traffic connection to said user equipment and re-
ceives user traffic from both said serving network element (20) and said
target network element (22); and
 - d) relocating said radio resource control to said target network element
20 (22) when said second operating state has been established.
2. A method according to claim 1, wherein an Iur interface is established be-
tween said drift network element (21) and both said serving network ele-
ment (20) and said target network element (22).
3. A method according to any one of the preceding claims, wherein said re-
25 location-specific information is transmitted in a relocation request message.
4. A method according to claim 3, wherein said relocation request message is
a RANAP Relocation Request message transmitted to an access server or
point (10) of a core network.

5. A method according to claim 3, wherein said relocation request message is directly transmitted to said target network element (22).
6. A method according to any one of claims 3 to 5, wherein said relocation request message comprises an identification of said target network element (22) and said drift network element (21).
7. A method according to any one of the preceding claims, wherein said entity change comprises a soft handover procedure.
8. A method according to any one of the preceding claims, wherein said establishing step c) of said second operating state comprises the steps of:
- 10 c1) transmitting a drift setup message from said target network element (22) to said drift network element (21);
- c2) initiating an uplink bi-casting procedure at said drift network element (21) to said serving network element (20) and said target network element (22);
- 15 c3) initiating a downlink bi-casting procedure from a core network access point to said serving network element (20) and said target network element (22), or a downlink transport forwarding procedure from said serving network element (20) to said target network element (22); and
- 20 c4) initiating a handover of said user equipment (30) from said serving network element (20) to said target network element (22).
9. A method according to any one of the preceding claims, wherein said relocation step d) comprises the steps of:
- 25 d1) instructing said drift network element (21) to switchover its radio resource control interface from said serving network element (22) to said target network element (22);
- d2) stopping bi-casting or forwarding to said serving network element (20) after said switchover; and
- 30 d3) releasing said radio resource control connection at said serving network element (20).

10. A method according to any one of claims 4 to 6, wherein said relocation-specific information comprises identifications of multiple drift network elements (20, 21) to which a connection is to be established by said target network element (22).
- 5 11. A method according to claim 10, wherein said identification comprises a list of temporary identifiers of said radio access network.
12. A relocation system for changing a serving radio resource control entity, said system comprising:
- 10 a) a serving network element (20) for transmitting a relocation-specific information to a target network element (21) which is going to be the next serving radio resource control entity, said serving network element (20) being in charge of radio resource control of a user equipment (30); and
- b) a drift network element (21) for supporting said serving network element (20) with a wireless connection to said user equipment (30);
- 15 c) wherein said target network element (22) is arranged to establish, in response to the receipt of said relocation-specific information, a link to said drift network element (21) and to initiate a downlink bi-casting procedure to said serving network element (20) and said target network element (22) or a downlink transport forwarding procedure from said serving network element (20) to said target network element (22); and
- 20 d) wherein said system is arranged to change said radio resource control to said target network element (22) after said initiation of said bi-casting or forwarding procedure.
- 25 13. A system according to claim 12, wherein said system is provided in a UTRAN or an IP radio access network.
14. A system according to claim 12 or 13, wherein said serving network element (20), said drift network element (21) and/or said target network element (22) are base transceiver stations, base station controllers or radio
- 30 network controllers, or a combination thereof.

15. A system according to any one of claims 12 to 14, wherein said link to said drift network element (21) comprises an Iur interface.
16. A system according to any one of claims 12 to 15, wherein said target network element (22) is arranged to establish links to multiple drift network elements (20, 21) based on an identification in said relocation-specific information.
17. A network element for handling radio resource control in a radio access network, comprising:
- a) means for receiving a relocation-specific information;
 - b) means for establishing, in response to the receipt of said relocation-specific information, a link to a drift network element (21) specified by said relocation-specific information; and
 - c) means for initiating a downlink bi-casting procedure to said network element (22) and to a serving network element (20) to be subjected to relocation, or a downlink transport forwarding procedure from said serving network element (20) to said network element (22):
18. A network element according to claim 17, wherein said network element is a base transceiver station, a base station controller or a radio network controller.
19. A network element for handling radio resource control in a radio access network, comprising:
- a) means for adding an identification information to a relocation-specific information, said identification information identifying a drift network element (21) supporting said network element (20) in serving a user equipment (30); and
 - b) means for transmitting said relocation-specific information to a target network element (22) to which radio resource control of said user equipment (30) is to be relocated.

20. A network element according to claim 19, wherein said network element is a base transceiver station, a base station controller or a radio network controller.